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ABSTRACT

This document, one part of a project to train personnel for educational development and evaluation, features data that represent judgments of informed experts on personnel needs in various activities in four kinds of research and development agencies: (1) local, intermediate, and State educational agencies; (2) regional laboratories and research and development centers; (3) colleges and universities; and (4) educational or training divisions of industrial firms. A summary of the data reveals that evaluation skills are in greatest demand relative to supply and that a great need exists for professional supervisory personnel who could organize and supervise development and evaluation activities. Related documents are EA 003 900, EA 003 901, and EA 003 902. (RA)

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DESIGN DOCUMENT I

for the MIDWEST EDUCATIONAL TRAINING CENTER

Submitted by:

Upper Midwest Regional Educational Laboratory
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Educational Research and Development Council
of the Twin Cities Metropolitan Area
Control Data Corporation
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Iowa State Department of Education
Minnesota State Department of Education
North Dakota State Department of Education
South Dakota State Department of Education
Wisconsin State Department of Education

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Design Document I

for the MIDWEST EDUCATIONAL TRAINING CENTER

The Need for Research, Development, Dissemination, and Evaluation Personnel in Education

Prepared by:

Geraldine Evans

EA003 903

Upper Midwest Regional Educational Laboratory
1640 East 78th Street
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December 14, 1970

The Need for Research, Development, Dissemination, and Evaluation Personnel in Education

ED029413

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Introduction

Informal discussions of educators regarding the need for research, development, dissemination and evaluation personnel in education always resolve that the need is "great," and that qualified and competent personnel are "impossible to find." Supervisory personnel in educational agencies are begining to feel considerable pressure from their communities to develop and use new learning techniques, evaluate personnel and programs, and to base program and personnel decisions upon research. The desire to obtain federal funds, and the then inevitable need to develop programs and evaluate them, have caused many institutions to see the need to hire personnel with R,D,D, and E skills or to re-train the present staff. Such personnel are no longer considered superfluous to the on-going program; they are now cost-effective.

To determine that the need for such personnel is "great" was an easy task. To determine the numbers of individuals needed, and the nature of the skills which these people must possess, proved to be a much more difficult task. Most agencies have, at present, only felt and unmet needs for such personnel. They have not, as yet, defined the positions and skills which will meet these needs. Therefore, the project staff found it a fruitless task to poll school and college officials as to the numbers and types of research personnel they planned to hire in the near future. In most cases these officials simply did not know.

The data presented in this report does not represent a survey of what agency directors say they need, but judgments of informed

experts about personnel likely to be needed in various activities for each category of agency. Care was taken to find individuals who were informed and in the mainstream of current agency activity. Exact tabulations of the numbers of agencies in each category were then made and the total personnel needs estimated.

The need study deals with four separate areas or groups of agencies where R,D,D, and E personnel are likely to be needed: (1) local, intermediate, and state educational agencies, (2) Regional Laboratories and Research and Development Centers, (3) colleges and universities, and (4) educational or training divisions of industrial firms.

The prime concern was to find data relating to needs in the five state (Minnesota, Iowa, North Dakota, South Dakota, Wisconsin) area. However, where other data became readily available it was also included. The reason for restricting the search to this area was a practical one. To list projected numbers of personnel needed in local, intermediate, and state education agencies for a wider area would only compound any error made in the estimated needs and would involve numbers of personnel which one training program could never hope to accommodate. The staff felt, in general, the bulk of the program clientele would come from Midwest agencies. The exceptions to this assumption would likely occur in training personnel for industry, Regional Laboratories, and R & D Centers. Therefore, the scope of this part of the search was wider.

The Needs of Local, Intermediate, and State Education Agencies

The material presented in this section was compiled by the project staff with the aid of personnel from the Minnesota Department of Education. Several local school district officials also contributed opinions on the future needs of the schools.

The staff and consultants first estimated the roles and skills which would be needed by local, intermediate district, and state department R,D,D, and E personnel. Then an estimate was made of the number of persons likely to be needed in each of these categories in various school district size categories. These data are presented in Table A and on the pages which follow.

Table B presents the current number of school districts in each of the five states by size categories. The "projected personnel" column lists the number of personnel the project staff estimates will be needed for professional research, development, dissemination, and evaluation activities by the 1972-73 school year.

It became immediately obvious to the project staff that the training priority was for professional and supervisory research, development, dissemination, and evaluation personnel rather than for support personnel, fiscal or systems managers, or para- or non-professional personnel. Schools, at present, seem to need individuals who can design, supervise, and evaluate district programs. These individuals are likely to be at the M.A. or Ph.D level, but likely have not received adequate practical training and skills through graduate programs to develop new programs and materials or to evaluate programs and personnel. These persons will need "how-to-do-it"

skills, not only theoretical knowledge, and little of this is provided in the traditional graduate school. Until some activities are instigated by such trained supervisory personnel, the need for support personnel and non-professional personnel is minimal. However, needs for these personnel are likely to evolve rapidly. This report, therefore, only projects the needs for the professional R, D, D, and E personnel on Table B, but the reader may determine his own projections of the numbers of support and non-professional personnel needed from the descriptions and estimates of need presented in Table A and on the pages which follow.

The data on Tables A and B refer to personnel whose primary function will be R,D,D, and E activities. However, as new programs are instigated in the public schools, there may be a need for most or all personnel to have some development and evaluation training. All teachers, for example, will need to be able to write instructional objectives, to build and effectively use programmed instruction, and to know when and how to use computorized programs. Table C lists the possible numbers of school district personnel who may be logical candidates for short programs or in-service courses offered by a research training program. This is, of course, the largest client group.

Some states have Intermediate Units (regional units which offer the local districts services which are uneconomical for them to afford individually or units which are branches of the State Department of Education). Minnesota has a number of Research and Development Councils which provide regional services. Various

TABLE A

PROJECTED 1973 STAFFING NEEDS BY AREAS OF RESPONSIBILITY

and

SIZE OF DISTRICT
(See following page for area and role descriptions)

	AREA OF RESPONSIBILITY			
District Size	Professional or Supervisory R,D,D, and E Personnel	Support # Proj.'73	Fiscal # Proj.'73	Non-Professional Para-Professional # Proj.'73
Less 300	.2 *	0 *	0 *	0 *
300-2499	1	0 *	0 *	0 *
2500-4999	2	1	1	1
10,000-24999	4	1	2	2
25,000 +	40	5	10	10

* Probably will be served by intermediate agency.

PROJECTED AREAS, ROLE EXAMPLES, AND EXAMPLES OF SPECIFIC RESPONSIBILITIES OF RESEARCH PERSONNEL LIKELY TO BE NEEDED BY 1972-73

I. AREA: Professional or Supervisory Research, Development, Dissemination, and Evaluation Personnel

ROLE EXAMPLES: Assistant Superintendent of Research, Assistant Superintendent of Instruction, Assistant Superintendent of Evaluation; Director of Coordinator of Research; Evaluation Coordinator, Director of Federal Programs, School Principals, Subject Matter Area Coordinators, Department Heads in large organizations

SPECIFIC RESPONSIBILITIES: (examples)

Maintain continuous contact with the organization heirarchy regarding needs, objectives, and finances

Coordinate activities with other divisions of the organization

Direct and plan research, development, dissemination, and/or evaluation activities

Define staff and resource requirements

Supervise and coordinate research evaluation, dissemination, and/or evaluation activities

II. AREA: Support Personnel

ROLE EXAMPLES: Media Specialists, Programmers, Interviewers, Testers, Frame Artists, Frame Writers, Data Organizers

SPECIFIC RESPONSIBILITIES: (examples)

- Write frames for programmed instruction material
- Conduct interviews to collect relevant research data
- Organize data into logical and useful configurations under the direction of a supervisor
- Build programmed materials under the direction of a supervisor

III. AREA: Fiscal

ROLE EXAMPLES: Business Manager, Directors of Business Affairs, Accounting Specialists, Census and Transportation Specialists, PPBS Specialist

SPECIFIC RESPONSIBILITIES: (examples)

- Efficiently handle the business matters of school districts and other educational agencies
- Organize and direct data management and computorized systems to handle business affairs
- Supervise accounting and data processing activities
- Supervise and organize data collection activities

IV. AREA: Non-professional and Para-professional Personnel

ROLE EXAMPLES: Teacher aide, non-professional materials librarian (materials clerk), key punch operator, data processing machine operator, data tabulator, monitor.

SPECIFIC RESPONSIBILITIES: (examples)

- Use a key punch machine to transfer data to computer cards
- Tabulate data in arrangements previously designed by a supervisor
- Monitor students using programmed instruction
- Distribute, collect, and organize instructional materials for efficient use

TABLE B

NUMBER OF SCHOOL DISTRICTS 1969-1970 and

PROJECTED PROFESSIONAL AND SUPERVISORY PERSONNEL NEEDS

in Research, Development, Dissemination, and Evaluation Activities

	Minnesota		North Dakota		South Dakota		Wisconsin		Iowa	
	# of * Dist	Proj** Pers	# of Dist	Proj Pers	# of Dist	Proj Pers	# of Dist	Proj Pers	# of Dist	Proj Pers
District Enrollment										
Less 300 ***	542	108	280	56	576	115	46	1	24	1
300-2499	339	339	107	107	124	124	336	336	384	384
2500-4999	51	102	4	8	9	18	60	120	38	76
10,000-24,999	12	48	3	12	2	8	11	44	5	20
25,000 +	5	200	0	0	0	0	3	120	2	80
Total	949	797	384	183	711	265	456	620	453	661

* 1969-1970 data.
** 1972-1973 project, based on Table A and expressed in full-time equivalents (FTE).
*** Needs of districts with enrollments under 300 will likely be served by the state or regional education agencies.

TOTAL PROJECTED 1972-73 LOCAL SCHOOL DISTRICT NEED
FOR THE FIVE STATE AREA = 2526

TABLE C

LOCAL EDUCATION AGENCY PERSONNEL WHO ARE PROBABLE

CLIENTELE FOR PROGRAMMED LEARNING MATERIALS

OR INSERVICE TRAINING

	Minnesota*	North Dakota**	South Dakota**	Wisconsin**	Iowa**
Principals	1079	252	246	1420	1479
Consultants and supervisors of instruction	593	39	48	569	599
Teachers	40,707	6940	8269	38,483	34,175
Personnel services Psychologists Psychomotrists Guidance Counselors	996	62	188	1015	774

* 1970 data for Minnesota

** Figures are from fall of 1965 which is the latest published by USOE and are, therefore, an underestimate of the possible clientele.

districts have joined into units to provide common services under the Joint Boards Act. These units are likely to do research and evaluation activities and could offer special advantages to smaller districts because of the ability of the regional unit to hire and hold highly skilled and specialized staff which the small district cannot attract. Estimates on the numbers of personnel likely to be needed by these units are presented on Table D.

State Departments of Education also are likely employers of research personnel. The present and projected staffing levels of the five state departments are presented in Table E.

No good estimates can be made as to how many of the potential positions will be filled in local, intermediate, and state educational agencies. The level of funding for each unit will determine how rapidly each of these agencies can embark upon extensive research, development and evaluation activities. There is also no reasonable way to predict how many of the possible clients will seek training at the center set up under REP 70-12 funds. Other agencies, too, are offering training in research techniques. These are industrial firms, colleges and universities, and the State Department of Education. Table F provides an example of the numbers of state, regional, and local school personnel who will receive training each year in Minnesota from 1971-1973 under Title IV--Section 402.

As illustrated in the preceding tables, great numbers of possible clients for a Project Training Center are likely to be available from the areas of education associated with the opera-

TABLE D

NUMBER OF STATE INTERMEDIATE UNITS

(actual or planned by fall of 1970) and

PROJECTED PERSONNEL NEEDS FOR 1972-73

	Minnesota	North Dakota	South Dakota	Wisconsin	Iowa
Number of Units	11	8	3	19	16
Personnel Projections *	44	32	12	76	64

* Staff estimates refer only to professional and supervisory personnel in Research, Development, Dissemination, and Evaluation Activities.

TABLE E

1969-70 STATE EDUCATION AGENCY STAFF BY DEPARTMENTAL AREA

and

1972-73 PROJECTED STAFFING

	Minnesota		North Dakota		South Dakota		Wisconsin		Iowa	
	69-70	Proj. 72-73	69-70	Proj. 72-73	69-70	Proj. 72-73	69-70	Proj. 72-73	69-70	Proj. 72-73
Departmental Area										
Planning Development Evaluation	9	23					6 full 3 part	time time	10	25
Data Processing	2	6			3	5	1	?	4	7
Informational Systems	1	3	3	4	1	2	1	an	7	13
Title IV Section 402	3	6	3	5	3	5	1	increase	3	6
Title III	included in P, D, and E.				2	3	included in P,D, & E		3	5
Title I	.5	8	3	5	3	4	1		4	5
General Research	2	4					2			

* All numbers refer to professional personnel engaged in Research, Development, Dissemination, and Evaluation Activities.

TABLE F

Minnesota State, Local, and Regional Agency Education Personnel who will be Involved in Management, Planning, and Evaluation Training Programs Sponsored by Title IV - Section 402

State Agency Personnel	40
Regional Agency Personnel	60
Local Agency Personnel *	300

* Figure represents personnel in 100 of Minnesota's 440 school districts; the training will, of course, be minimal, partially because of limited personnel and resources.

tion of elementary and secondary schools. This area appears to present the greatest need both in regard to numbers of personnel likely to need training and in the urgency of the need expressed. The project staff can logically assume that, if it attempted to fill only this training need, there would be no lack of clientele for the Midwest Educational Training Center.

Personnel Needs in Institutions of Higher Learning

The processes involved in collecting estimates of the numbers of research personnel likely to be needed in institutions of higher learning followed, generally, the same pattern as the processes involved in collecting data on state, local, and intermediate units dealing with elementary and secondary education.

First, a list of all the colleges and universities in each of the five states in the region was compiled. The information was obtained from A Comprehensive Guide to American Colleges[1] and is summarized under types of colleges on the pages which follow. A summary table (Table G) was also designed to tabulate the numbers in each category of college or university and to present the five state totals.

Next, the project staff surveyed knowledgeable college administrative personnel regarding: (1) the numbers and types of employees doing institutional R,D,D, and E activities in colleges and universities, (2) the numbers and types of personnel engaged in college or university R,D,D, and E activities, but employed at the state level (working for the State College Board, the Junior College Board, etc.), and (3) the projected levels of employment for such personnel by the 1972-73 school year. Telephone interviews were held with employees of the State Department of Education, the State College Board, the Junior College Board, and with various college and university research directors.

Based upon the information obtained in these interviews, the staff organized the estimates presented in Table H about the present and future staffing levels of colleges.

---

1. Cass, James, and Max Birnbaum; A Comprehensive Guide to American Colleges (1968-69 edition), Harper & Row, New York, New York, 1968.

LIST OF MIDWEST INSTITUTIONS OF HIGHER LEARNING

MINNESOTA

Junior Colleges

Anoka-Ramsey State Junior College
Austin State Junior College
Brainerd State Junior College
Corbett Junior College
Fergus Falls State Junior College
Lakewood State Junior College
Mesabi State Junior College
Metropolitan State Junior College
Normandale State Junior College
North Hennepin State Junior College
Northland State Junior College
Rainy River State Junior College
Rochester State Junior College
St. Mary's Junior College
Willmar State Junior College

State Colleges

Bemidji State College
Mankato State College
Moorhead State College
St. Cloud State College
Southwest Minnesota State College
Winona State College

Universities and Branches

University of Minnesota, Minneapolis-St. Paul
University of Minnesota, Duluth
University of Minnesota, Morris

Private Colleges

Augsburg College
Bethel College
Carleton College
College of Saint Benedict
College of St. Catherine
College of St. Scholastica
College of St. Teresa
College of St. Thomas
Concordia College, Moorhead
Concordia College, St. Paul
Dr. Martin Luther College
Gustavus Adolphus College
Hamline University
Lea College on Lake Chapeau
Macalester College
Minneapolis School of Art
Minnesota Bible College
North Central Bible College
St. John's University
Saint Mary's College
Saint Olaf College
St. Paul Bible College

LIST OF MIDWEST INSTITUTIONS OF HIGHER LEARNING

IOWA

Community and Junior Colleges

Centerville Community College
Des Moines Area Community College
Eastern Iowa Community College, Clinton Campus
Eastern Iowa Community College, Muscatine Campus
Ellsworth Community College
Iowa Central Community College
Iowa Central Community College, Eagle Grove Campus
Iowa Lakes Community College
Kirkwood Community College
Marshalltown Community College
North Iowa Area Community College
Palmer Junior College
Southeast Iowa Area Community College
Southwestern Community College

State Universities

Iowa State University of Science and Technology

Universities and Branches

University of Dubuque
The University of Iowa
University of Northern Iowa

Private Colleges

Briar Cliff College
Buena Vista College
Central College
Clarke College
Coe College
Cornell College
Divine Work College Siminary
Drake University
Faith Baptists Bible College
Graceland College
Grand View College
Grinnell College
Iowa Wesleyan College
Loras College
Luther College
Marycrest College
Midwestern College
Morningside College
Mount Mercy College
Northwestern College
Ottumwa Heights College
Parsons College
Saint Ambrose College
Simpson College
Sioux Empire College
Upper Iowa College
Vennard College
Waldorf College
Wartburg College
Westmar College
William Penn College

LIST OF MIDWEST INSTITUTIONS OF HIGHER LEARNING

NORTH DAKOTA

Junior Colleges

Bismarck Junior College
Lake Region Junior College

Private Colleges

Assumption College
Jamestown College
Mary College

State Colleges

Dickinson State College
Minot State College
North Dakota State School of Science

Universities and Branches

NDSU - Bottineau Branch & Institute of Forestry
North Dakota State University of Agriculture & Applied Sciences
University of North Dakota

SOUTH DAKOTA

Junior Colleges

Freeman Junior College

Private Colleges

Augustana College
Dakota Wesleyan University
Huron College
Mount Marty College
National College of Business
Sioux Falls College
Yankton College

State Colleges

Black Hills State College
Dakota State College
Northern State College
Southern State College

Universities and Branches

South Dakota School of Mines and Technology
South Dakota State University
The University of South Dakota

LIST OF MIDWEST INSTITUTIONS OF HIGHER LEARNING

WISCONSIN

Teachers Colleges

Ashland County Teachers College
Columbia County Teachers College
Dodge County Teachers College
Manitowoc County Teachers College
Polk County Teachers College
Racine-Kenosha County Teachers College
Taylor County Teachers College

Universities and Branches

University of Wisconsin, Green Bay
University of Wisconsin, Madison
University of Wisconsin, Parkside

State Universities

Stout State University
Stout State University
Barron County Campus
Wisconsin State University,
Eau Clarie
Wisconsin State University,
La Crosse
Wisconsin State University,
Platteville
Wisconsin State University,
Platteville, Richland Campus
Wisconsin State University,
River Falls
Wisconsin State University
Stevens Point
Wisconsin State University
Superior
Wisconsin State University
Whitewater

Private Colleges

Alverno College
Beloit College
Cardinal Stritch College
Carroll College
Carthage College
Concordia College
Dominican College
Edgewood College
Holy Family College
Kenosha Technical Institute
Lawrence University
Marian College of Fond du Lac
Marquette University
Milton College
Milwaukee School of Engineering
Milwaukee Technical College
Mount Mary College
Mount St. Paul College
North Central Technical Institute
Northland College
Ripon College
St. Francis Seminary
Saint Norbett College
Veterbo College
Wisconsin College Conservatory

TABLE G

SUMMARY TABLE OF COLLEGES AND UNIVERSITIES

IN THE FIVE STATE REGION

(Names of colleges in each category for each of the five states are listed on the preceding pages)

	Junior Colleges, Teachers Colleges, or Community Colleges	State Colleges or State Universities	Universities	Private Colleges
MINNESOTA	15	6	1 at 4 locations	22
IOWA	15	1	3	31
WISCONSIN	7	10	1 at 3 locations	26
NORTH DAKOTA	2	3	3	3
SOUTH DAKOTA	1	4	3	7
FIVE STATE TOTAL	40	24	*	89

* The size and character of the Universities vary too much to group them.

TABLE H

ESTIMATES OF COLLEGE AND UNIVERSITY R,D,D, and E PERSONNEL NEEDS

SETTINGS	NUMBER EMPLOYED NOW	NUMBER LIKELY NEEDED BY 1973
Junior College	about 1/2 of a position (usually an Ass't Dean); no support staff; data processing done in another setting	about 1 full-time person at Ph. D. level; possibly some support staff
State College	generally 1 position; on or close to Ph. D. level; some support staff data processing facilities	about two full-time people at Ph. D. level and increased support staff
Private Colleges	situation varies from no positions to several; about 1 full-time (on the average) at M. A. plus or Ph. D. level	there appears to be less potential for growth here due to lack of funds; likely still 1 full-time position and some support staff
University Setting	usually conducts institutional research in many settings; total number of individuals depends on size of university	probably 1/3 greater

University of Minnesota as an example:

Dean's Office--the equivalent of one full-time person at D. level and 6 research assistants

Bureau of Institutional Research--6 full-time equivalents at Ph. D. level and 4 research assistants

Bureau of Field Studies--2 full-time equivalents at Ph. D. level and 6 research assistants

There are also numerous other agencies which hire several professors and research assistants as:

Graduate Research Center
State Wide Testing Center
Center for Curriculum Study
Analytic Study Division

Several state commissions in Minnesota employ personnel to conduct research activities on programs and problems of institutions of higher learning. The Higher Education Coordinating Commission has five Ph. D. level positions, the State College System has a Research Director and six staff members (ranging from an Assistant Directorship to programmers), and the Junior College Board has five professional research positions. The political subdivisions dealing with higher education vary from state to state in the five-state region so no generalizations can be made.

By multiplying the number of colleges in the region in each category times the estimated staffing level for that type of college by 1973, it is, however, again easy to project large numbers of clients for training or re-training at a Project Training Center.

Regional Laboratories and R & D Centers

In an attempt to discern the R,D,D, and E personnel needs of the Regional Laboratories and the R & D Centers, the project staff sent a letter of inquiry to the following labs and centers:

Appalachia Educational Laboratory
P.O. Box 1348
Charleston, W. Virginia 25325

Center for Urban Education
105 Madison Avenue
New York, New YOrk 10016

Central Atlantic Regional
Educational Laboratory
1200 17th Street, NW.
Washington, D.C. 20036

Central Midwestern Regional
Educational Laboratory
10646 St. Charles Rock Road
St. Ann, Missouri 63074

Cooperative Educational
REsearch Laboratory, Inc.
540 Frontage Road
Northfield, Illinois 60093

Eastern Regional Institute
for Education
635 James Street
Syracuse, New York 13203

Educational Development Center
55 Chapel Street
Newton, Massachusetts 02160

Michigan-Ohio Regional
Educational Laboratory
3750 Woodward Avenue
Room 1408
Detroit, Michigan 48201

Northwest Regional Educational
Laboratory
400 Linsday Building
710 Southwest Second Avenue
Portland, Oregon 97204

Rocky Mountain Educational
Laboratory
1620 Reservoir Road
Greeley, Colorado 80631

Far West Laboratory for Educational
Research and Development
Claremont Hotel, 1 Garden Circle
Berkeley, California 94705

Research for Better Schools, Inc.
1700 Market Street
Philadelphia, Pennsylvania 19103

Mid-Continent Regional Educational
Laboratory
104 East Independence Avenue
Kansas City, Missouri 64108

Regional Education Laboratory
for the Carolinas & Virginia
Nutual Plaza
Durham, North Carolina 27701

South Centrol Region
Educational Laboratory
302 National Old Line Building
Little Rock, Arkansas 72201

Southeastern Education Laboratory
3450 International Boulevard
Hapeville, Georgia 30054

Southwest Educational Development
Laboratory
800 Brazos Street
Austin, Texas 78767

Southwest Regional Laboratory for
Educational Research and
Development
11300 LaCienega Boulevard
Inglewood, California 90304

Southwestern Cooperative
Educational Laboratory
117 Richmond Drive, NE.
Albuquerque, New Mexico 87106

Upper Midwest Regional Educational Laboratory
1640 East 78th Street
Minneapolis, Minnesota 55423

Learning Research and Development Center
208 M. I. Building
University of Pittsburgh
Pittsburgh, Pennsylvania 15213

Center for the Advanced Study of Educational Administration
147B Hendricks Hall
University of Oregon
Eugene, Oregon 97403

Wisoncson Center for Research and Development of Cognitive Learning
The University of Wisconsin
1404 Regent Street
Madison, Wisconsin 53705

Research and Development Center in Educational Stimulation
Fain Hall
University of Georgia
Athens, Georgia 30601

Research and Development Center in Teacher Education
303 Sutton Hall
University of Texas
Austin, Texas 78712

Stanford Center for Research and Development in Teaching
Stanford University
770 Welch Road
Palo Alto, California 94304

Center for Research and Development in Higher Education
University of California
4606 Tolmen Hall
Berkeley, California 94720

Center for the Study of the Evaluation of Instructional Programs
145 Moore Hall
405 Hilgard Avenue
Los Angeles, California 90024

Center for the Study of Social Organization of Schools
The Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218

Center for Research, Development and Training in Occupational Education
North Carolina State University
Raleigh, North Carolina 27606

Center for Research and Leadership Development in Vocational and Technical Education
980 Kinnear Road
Ohio State University
Columbus, Ohio 43212

The letter requested the following information: (1) a copy of the agency's organizational chart, (2) job descriptions for the positions on the chart, and (3) a summary of the present and projected research personnel needs of the agency.

Less than one-half of the agencies responded. Of those which did respond most sent an organizational chart but explained that

no position descriptions were available. Only a few sent adequate information, giving position descriptions and detailed projections.

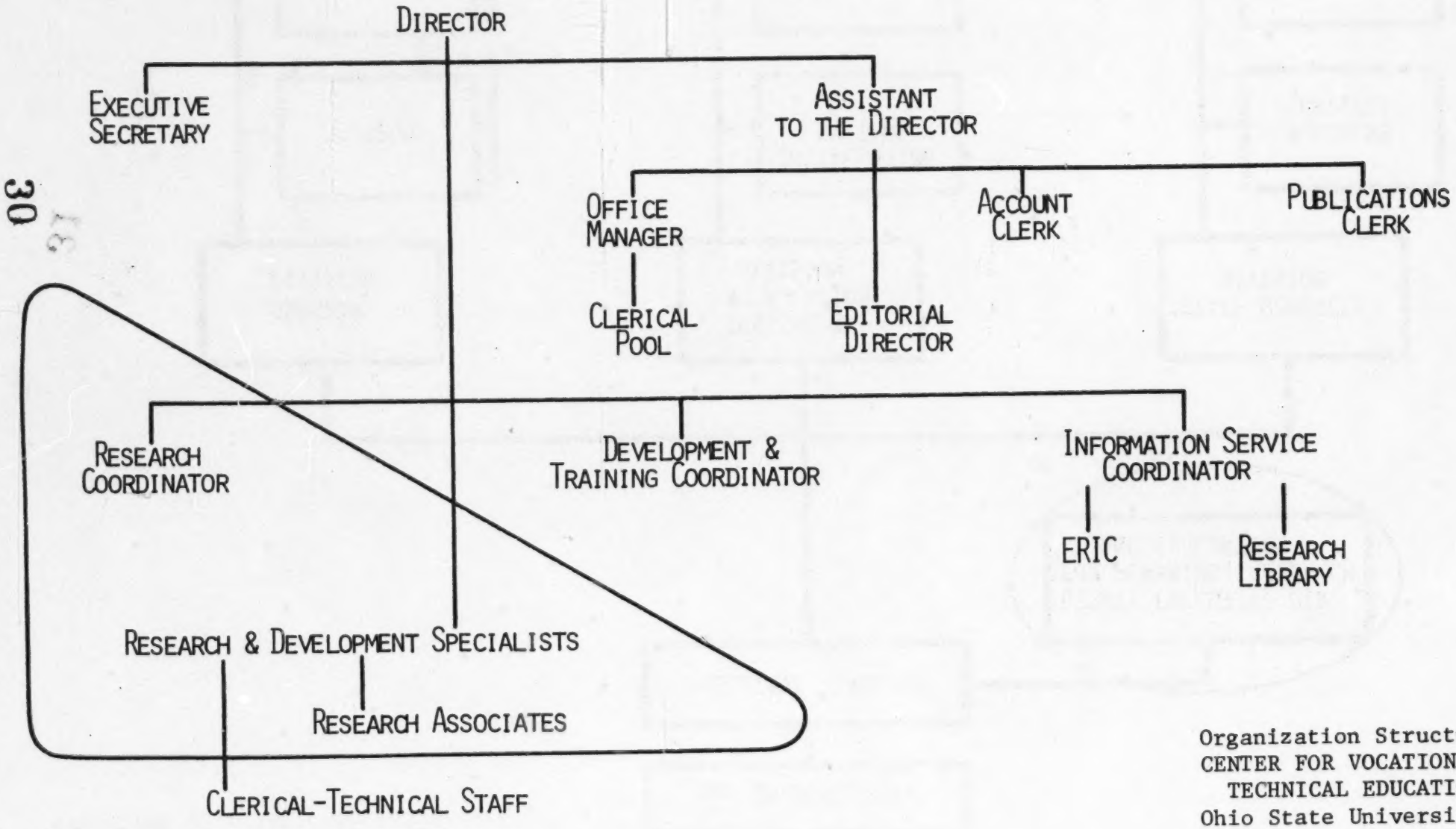
The following pages list examples of organizational structures of R & D Centers and Regional Laboratories. The research area is circled to point out the types of positions available in these agencies. Director or Coordinator of Research or Evaluation positions are common. Position descriptions for these jobs are listed on the pages following the organizational charts. The extent of the activities supervised by these directors and the number and nature of the professional, support, and non-professional personnel is difficult to identify. Various non-supervisory position descriptions were sent with the information from RESEARCH FOR BETTER SCHOOLS, INCORPORATED and these are also included.

The project staff is reluctant to make projections on the needs of these agencies based upon the scanty information obtained. A perusal of the data obtained leads to some very general opinions regarding the nature of the needs in these agencies: (1) since the basic reason for the existence of the Regional Laboratories and the R & D Centers is to develop new programs, disseminate educational information, and to evaluate educational outcomes, the activities of the majority of personnel employed in such agencies should fall within the general definition of R,D,D, and E personnel; (2) the specific programs and activities, as well as staffing levels, of the agencies vary considerably from each other, making it difficult to generalize personnel needs; however, (3) most of the agencies have a research or evaluation director and some professional and non-professional support staff. Therefore, the Regional Labs and the

R & D Centers are likely to send clients to the Project Training Center for re-training or the aquisition of specific research, evaluation or dissemination skills and to hire students from the program.

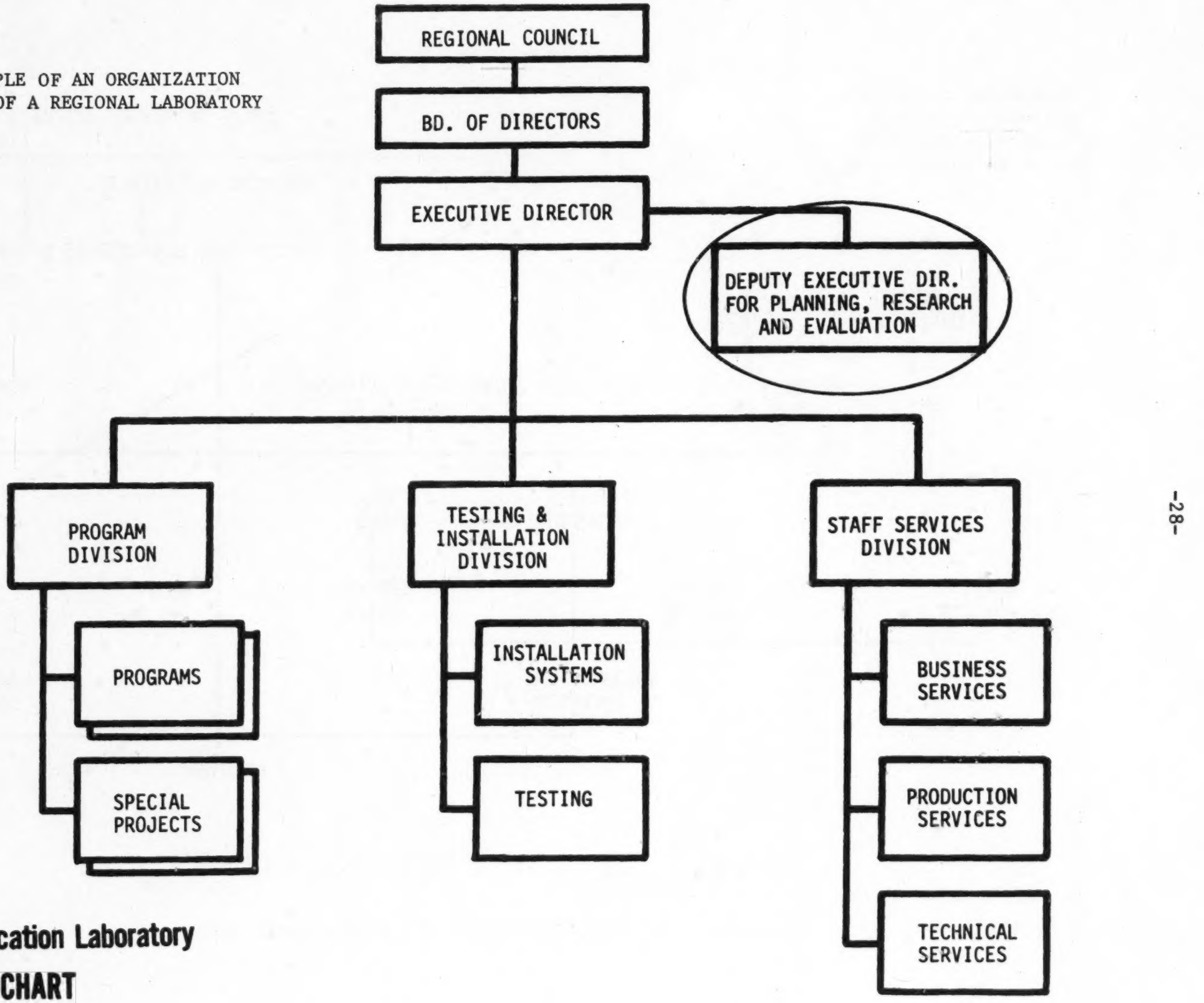
TYPICAL EXAMPLE OF R & D CENTER ORGANIZATIONAL STRUCTURE

CENTER ORGANIZATIONAL CHART



Organization Structure of:
CENTER FOR VOCATIONAL & TECHNICAL EDUCATION
Ohio State University

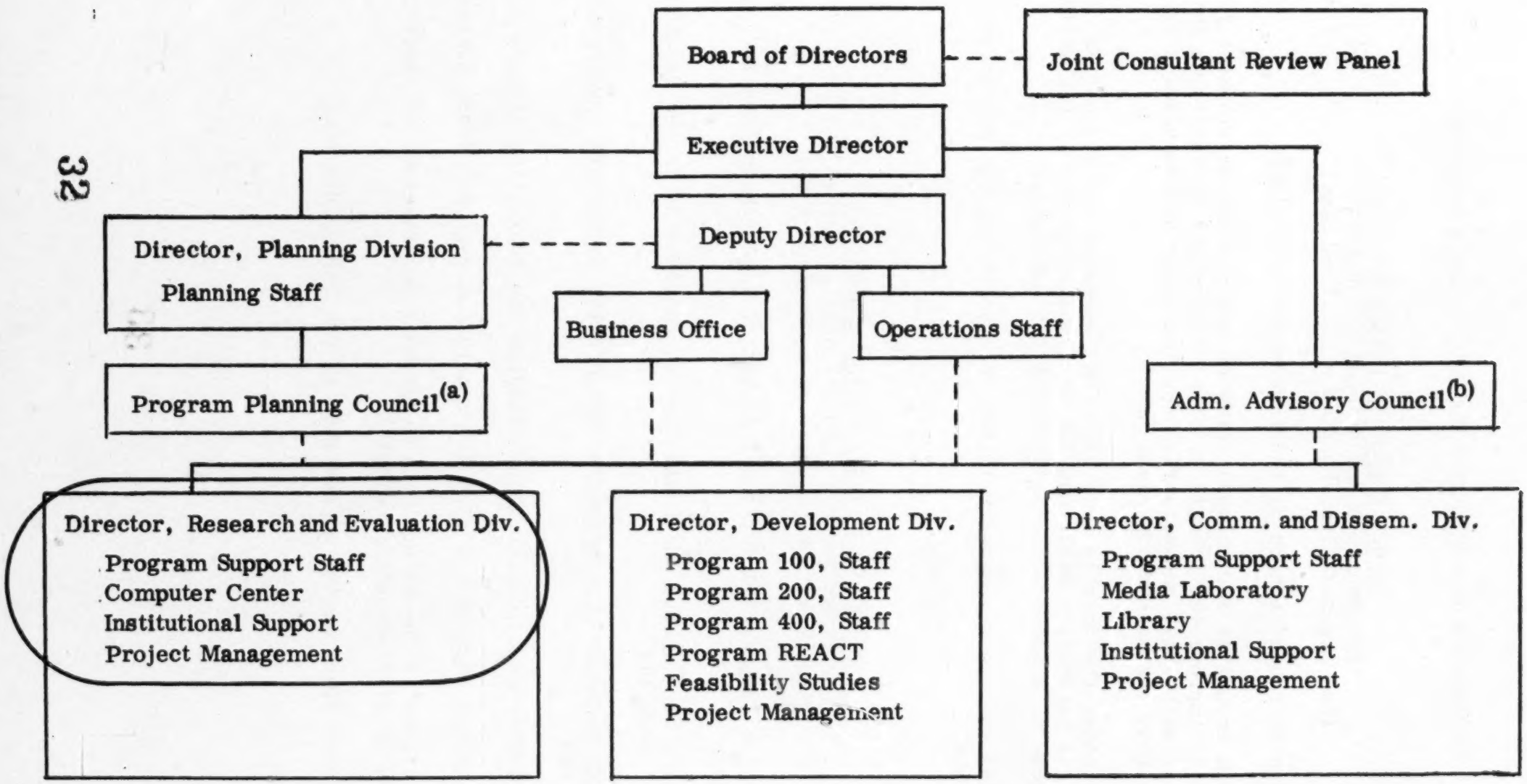
AN EXAMPLE OF AN ORGANIZATION
STRUCTURE OF A REGIONAL LABORATORY



Southeastern Education Laboratory

ORGANIZATIONAL CHART

ANOTHER EXAMPLE OF AN ORGANIZATIONAL PATTERN OF A REGIONAL LABORATORY



(a) Division Directors
Program Coordinators

(b) Deputy Director
Division Directors

Northwest Regional Educational Laboratory
ORGANIZATIONAL CHART

TYPICAL JOB DESCRIPTIONS FOR R,D,D, and E POSITIONS

DEPUTY EXECUTIVE DIRECTOR
Southeastern Educational Laboratory
(See organization chart on a previous page)

1. Assists in the direction of the Laboratory operations.

2. Reviews trends in educational research and product development in order to improve the Laboratory's operations and to determine the need, feasibility, and potential applicability of educational products that the Laboratory might develop.

3. Coordinates the functions of Planning, Research and Evaluation with all Laboratory Divisions for the implementation of activities designed to achieve the objectives of the Laboratory.

4. Carries out other responsibilities as directed by the Executive Director.

* * *

DIRECTOR OF RESEARCH AND EVALUATION
Northwest Regional Educational Laboratory
(See organization chart on a previous page)

The basic job description for the Director of Research and Evaluation is as follows:

The Director of Research and Evaluation is responsible to the Deputy Director. He will:

Provide research and evaluation support for Laboratory developmental programs

Plan and conduct institutional research and evaluation studies

Develop and implement a plan for continuous regional needs assessment

Participate in the selection, assignment, supervision, and performance review of division staff members

Carry out other duties as assigned by the Deputy Director

Research Intern

1. A B.S. or B.A. degree is required. Some experience in education, social welfare or research is desirable but not necessary.

2. Requires a breadth of knowledge that leads to quick assimilation of practices, principles and precedents in the application of specialized techniques.

3. Operations are within a specific area and must be related to the activities of other systems.

4. The ability to deal with and understand people, at a level higher than ordinary courteous service, is requisite.

5. Operations are within a wide procedural framework that requires the integration of various aspects of the particular area to provide specific solutions and evaluations.

Research Assistant

1. Requires a Bachelor's degree plus additional academic work in a pertinent area and outside related experience or a Master's degree in a pertinent discipline.

2. Requires a knowledge of practices, principles and theory in a specialized area.

3. Operations within a specific area are:

   a. directed by a superior,
   b. assigned for independent effort

   toward a specific objective. The relationship of the specific operation with the firm's total effort must be maintained.

4. The ability to deal with and understand people, at a level higher than that of ordinary courteous service, is requisite.

5. Operations are within policies and procedures as defined by management and the immediate superior to provide specific solutions or evaluated alternatives for situations that require high-level integration of data and information.

FROM: RESEARCH FOR BETTER SCHOOLS, INCORPORATED
(A Regional Educational Laboratory)

Suite 1700, 1700 Market Street
Philadelphia, Pennsylvania

Research Associate

1. Requires a Master's degree, additional academic work in a pertinent discipline and in-depth experience in a related area or a Doctorate in a pertinent discipline.

2. Requires a proficiency in the application of practices, principles and theory within a specialized area.

3. Operations within the specialized area are:

   a. directed by a superior,
   b. assigned for independent effort,
   c. initiated, with approval,

   and are focused toward a specific objective. The relationship of the specific operation with the firm's total effort must be maintained.

4. The ability to deal with, understand and influence people in varying situations is requisite.

5. Operates within broad policies and encounters variable situations that require analytical and interpretive extrapolations of extant information.

Research Fellow

1. Requires a Doctorate with rich experience in research. The discipline involved is less important than the overall capacity and capacity previously demonstrated.

2. Requires a mastery of techniques and theories that facilitate the integration of homogeneous activities on both a conceptual and operational basis.

3. The entire operational area is developed within broad policies and corporate objectives. The interrelation of corporate systems and the ability to relate the operational activities to the total, diverse effort of the firm is necessary.

4. The ability to deal with, understand and influence people, and in selected instances to motivate their understanding, is requisite.

5. Extrapolation from extant information must be coupled with the development and testing of new basic concepts.

FROM: RESEARCH FOR BETTER SCHOOLS, INCORPORATED
(A Regional Educational Laboratory)

Suite 1700, 1700 Market Street
Philadelphia, Pennsylvania

Educational and Training Programs in Industry

The members of the project staff from Control Data Corporation and the Research Department of CDC were helpful in collecting data regarding industrial training program personnel needs. The competitive nature of industry makes much of this data "classified" until it is outdated. Our lack of contacts within other industrial firms and the total lack of industrial participation in any central research and data collection society made the task a difficult one.

Several agencies and officials were contacted in an attempt to discern the number of people involved in developing industrial training materials. These contacts and the information they provided are listed below:

CDC Personnel Research Mr. R. E. Conner	No information
U. S. Department of Labor Bureau of Labor Statistics Mr. Neal Rosenthal	No data - not even on the number of people involved in industrial training.
American Society for Training and Development (ASTD) [Professional organization for training directors, trainers, and anyone else involved in training.] Headquareters - Madison, Wis. Mr. Bowerman	No data on the exact number of people involved in industrial training. Membership - 9/10/70 9,100 [Involves over 3,000 companies, universities, and government agencies.] Names on promotional mailing list for training material and seminars 9,100 + 11,000 20,100 Possible

A Market Research Study (No. 11,245) conducted by Control Data Corporation dated May 31, 1968, sought to obtain a basic measure of the kind of educational services offered by the first 250 corporations listed in The Fortune Directory: The 500 Largest U. S. Industrial Corporations.

The CDC Market Analysis Department conducted personal (telephone) interviews using a brief structured questionnaire. They talked with the Director of Public Relations or that person designated by him as the "most qualified" to provide the information requested. The study is summarized as follows:

EDUCATIONAL SERVICES OFFERED BY MAJOR MANUFACTURERS

Company offers Educational, Vocational, or Training Courses to . . .	Type of Company			Require Fees		Enrollments/ Revenues
Non-Company Persons	Mining	10	71	Yes	15	223,057 $60,517,050
	Mfct.	60		No	56	170,060
	Wholesale Retail	1				
Only Company Personnel or do not have such courses			166			
No response			13			
Total			250			

Of the 250 corporations polled, 71 do offer courses for non-company employees. Many more offer courses for company employees. The total course enrollments equal nearly 400,000.

The findings indicate that industrial firms are heavily involved and interested in developing and offering training to present personnel. They are likely to send large numbers of employees to a Project Training Center offering relevant training in research, development, dissemination, and evaluation skills. Industrial firms which need personnel with R,D,D, and E skills are likely, also, to be future employers for many of the graduates of a Training Center.

Relevant Data From Research

Sanders and Worthen[1] conducted a survey to analyze employer's perceptions of the relative importance of selected research and research-oriented competencies. Interviews were held with 60 persons who either employed or supervised research-related personnel in one of ten types of institutional settings. These settings were: Universities, Regional Laboratories, R & D Centers, Independent Research Organizations, State Departments of Education, School Districts, Federal Agencies, the Military, Industry, and Professional Education Associations.

The authors conclude that "Evaluation emerges clearly as the function most often listed as most important in attaining the goals of the respective programs. Development is next most important, followed closely by research, and diffusion is the least important function in most of the agencies represented in the interview sample."[2]

In the same study interviewees listed as most important or critical the research skills of "identifying and delineating significant researchable problems," and of "interpreting and drawing appropriate conclusions and implications from data analysis." These two skills and one other "reporting research findings and implications, orally and in writing," were also listed as those in shortest supply.

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1. Sanders, James R., and Blaine R. Worthen, "An Analysis of Employers' Perceptions of the Relative Importance of Selected Research and Research-Related Competencies and Shortages of Personnel with such Competencies," Technical Paper No. 3, American Educational Research Association, June, 1970.

2. Ibid., p. 8.

The authors also found that "selecting and devising appropriate techniques for measuring outcomes" was the development skill listed as most crucial. It was also listed as the skill in shortest supply.

The diffusion skill rated as most important or needed and also the one in shortest supply was "designing and implementing techniques for evaluating the effectiveness of the dissemination effort."

The study listed four types of evaluation activities and requested that respondents choose the most important skill in each area. The results were as follows:

context evaluation/situations analysis	identifying goals of the system
program planning/input analysis	helping system personnel to establish priorities for the selected objectives
process evaluation/program monitoring	designing and selecting indicators of progress in educational programs and providing immediate feedback to program operators for their possible use in making decisions about modifications of the plan, procedures, or resource allocations
outcome evaluation	providing sufficient information to the decision-maker to enable him to decide whether to continue, modify, or terminate the activity or process evaluated

An analysis of the most critical skills needed in each area, and the evidence that many of these skills are the ones in shortest supply at the present, indicate that the priorities are for training or re-training of high level personnel (supervisory or management personnel who at present may have an advanced degree) to develop and evaluate activities or processes.

Summary

Although for many areas of concern the data collected is scanty and non-conclusive due to the limited time and funds available to delve into extensive data collection, the need study seems to offer the project staff some practical suggestions and some priorities.

(1) The greatest numbers of research, development, dissemination, and evaluation personnel are likely to be needed in agencies relating to elementary and secondary public school education.

(2) Evaluation skills are those in greatest demand relative to the current supply, and development skills rank second in the most needed category.

(3) The greatest immediate and voiced need is for professional supervisory personnel who can organize and supervise development and evaluation activities. These individuals are likely to be lacking in specific and relevant skills necessary to design, develop, and evaluate instructional programs. A first priority is then to train such individuals.

(4) The professional supervisory personnel mentioned above will likely instigate programs which will demand more sophisticated skills of school teachers. Few of these skills are presently taught in the university or college setting. Therefore, a second priority will be to offer short or in-service courses to teachers.

(5) The educational and training needs of industry are already great and growing constantly. The training and re-training of employees and the building of effective programs to update employee skills offer a vast educational challenge.

(6) The need for research, development, dissemination, and evaluation personnel seems to be evolutionary and ever-increasing at this time. As agencies begin to see the need to conduct research, develop new programs, and to evaluate what is being done, greater and greater numbers of personnel are needed (and/or re-training becomes necessary). Also the scope and sophistication of skills needed becomes greater. Partially because of economic pressure (federal money available and pressure from taxpayers to become more effective and efficient) public schools realize the need for research, development, and evaluation personnel more acutely than other agencies at the present time. However, we assume the needs of other educational agencies will soon become apparent.